ZClone™ Command Line Interface (CLI)

The ZClone is a versatile multi-target and multi-task drive duplicator. To use the ZClone to its full potential, a Command Line Interface (CLI) is included with the device. This CLI allows the user to configure and fine-tune the ZClone in ways that cannot be done by using the Graphical User Interface (GUI).

Here are some examples of what can be done with the CLI:

- Configure databases (set default configurations)
- Configure ZClone network settings
- Configure user access to CLI
- Configure repositories (local/built-in and network)
- Configure bays to be set as Master only, Target only, or both
- Configure tasks (clone, wipe, hash, etc.)
- Configure the buzzer and light tower

Understanding the Command Line Syntax

The CLI requires commands to be typed out, rather than a graphical interface where users can touch, tap, or click icons. The syntax for commands entered through the CLI typically consist of three parts: The command, operation, and switch(es). Some require just the command without an operation or switch.

For example, if the 'bay' command is typed on its own in the config menu, it shows:

```
bay add|set --bay|-b <bay id> options
--master|-m    : Role Master
--target|-t    : Role Target
--hide|-h      : Role Not "Available"
--all|-a       : Role Master/Target

bay list - get the list of all bays and their current roles

bay get --bay|-b <bay id> - get a bay configuration

bay del --bay|-b <bay id> - delete a bay configuration
```

Sample command line: ***bay add –b M1 –a***

The command in the above example is 'bay'. The operation is 'add' and the switches are '–b' and '–a '. This would add bay M1 with the role of Master/Target (or Master and Target).

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Connecting to the CLI

To use the CLI, users must connect to the ZClone through one of three ways:

1. SSH
2. Telnet
3. Serial port

Information on how to connect using SSH, Telnet, or the serial port can be found in the ZClone user's manual, **Section 7. Remote Operation**.

***TIP:** It is highly recommended to reboot the ZClone prior to connecting to the CLI. While connected to the CLI, do not perform any tasks on the ZClone as some tasks may interfere with changes performed through the CLI.

Navigating Inside the CLI

Once connected, the following prompt will appear:

it@zclone>

- Type ***help*** then press the enter key to see the list of commands available on this menu level. The ***?*** key can also be used (instead of ***help***) to see the list of commands.
- Type the command by itself (for example ***config***, ***bay***, ***repo***, etc.) to go to that menu (for example, the config menu) or to display the syntax and list of operations and switches for that command
- Type ***exit*** to exit the current mode or go back one menu level.
- When finished, simply disconnect and close the window. Please consult the user's manual of the SSH, Telnet, or Serial Terminal program being used for instructions on how to disconnect a connection.

***TIP:** Without saving and loading the database, changes performed will not take effect.

Saving and Loading a Database (configuration changes)

Whenever changes are made through the CLI, the changes must be saved into a database then loaded again. If these two steps are not done, the changes will not appear the next time the ZClone is turned on or rebooted. A filename must be chosen by the user. The two commands are:

db save filename.db

db load filename.db

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Examples of Commonly Used Commands

Here are two examples of commands from beginning to end:

Example 1: Adding a network repository.
To add a network repository the following information is required:

a. A name for the network repository.
b. The IP address or hostname of the computer with the shared folder or directory.
c. The shared folder or directory name.
d. Username and password for the computer with the shared folder or directory (must have read & write access).
e. The domain name where the computer is located (if applicable).
f. A name for the database (configuration) to be saved so the changes are persistent and will show every time the ZClone is turned on or rebooted.

In this example, we will use the following:

Name for repository: netshare1
IP address or hostname: 192.168.1.100 or netpc
Shared folder name: images
Username: support
Password: logicube
Domain: ZC
Database name: share1

Here are the command line interface commands to use:

1. Reboot the ZClone (Important step). After the reboot, do not perform any operation (clone, wipe, hash, etc.) on the ZClone until asked to reboot again on step 10.
2. Connect to the ZClone CLI via Telnet or SSH as described in the user's manual, **Section 7. Remote Operation**.
3. Login using the username ***it*** and the password ***it***.
4. From the main prompt, type ***command*** then press the enter key.
5. Type ***config*** then press the enter key.
6. Type the command to add the repository (the example command is based on the information above):
   repo add –r netshare1 –l Network –p smb://netpc/images –U support –P logicube –D ZC
7. It should show a successful message. Next we have to save the database.
8. Type ***db save share1.db***.
9. Type ***db load share1.db***.
10. Reboot the ZClone. In the repository location screens (for example, when selecting a Drive to Image clone) 'netshare1' will be visible as one of the repositories.

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Example 2: Changing bays M1 and M2 from Master only to Master and Target. This will allow both M1 and M2 bays to be selectable when choosing a Target drive. Steps 1 through 3 connect to the ZClone. Steps 4 and 5 navigate to the proper menu/prompt. Steps 6 and 7 delete the configuration for bays M1 and M2. Steps 8 and 9 add bays M1 and M2 as a Master/Target (rather than just Master). Steps 10 and 11 saves then loads the database (configuration). The name of the database can be any other name with a .db extension. Step 12 reboots the ZClone to make sure the correct database or configuration loads.

1. Reboot the ZClone (Important step). After the reboot, do not perform any operation (clone, wipe, hash, etc.) on the ZClone until asked to reboot again on step 12.
2. Connect to the ZClone CLI via Telnet, SSH, or serial port as described in the user's manual, **Section 7. Remote Operation**.
3. Login using the username ***it*** and the password ***it***.
4. From the main prompt, type ***command*** then press the enter key.
5. Type ***config*** then press the enter key.
6. Type ***bay del –b M1*** then press the enter key.
7. Type ***bay del –b M2*** then press the enter key.
8. Type ***bay add –b M1 –a*** then press the enter key.
9. Type ***bay add –b M2 –a*** then press the enter key.
10. Type ***db save m1m2.db*** then press the enter key.
11. Type ***db load m1m2.db*** then press the enter key.
12. Reboot the ZClone. After it reboots, M1 and M2 as Master should now be selectable as Master or Target drives.

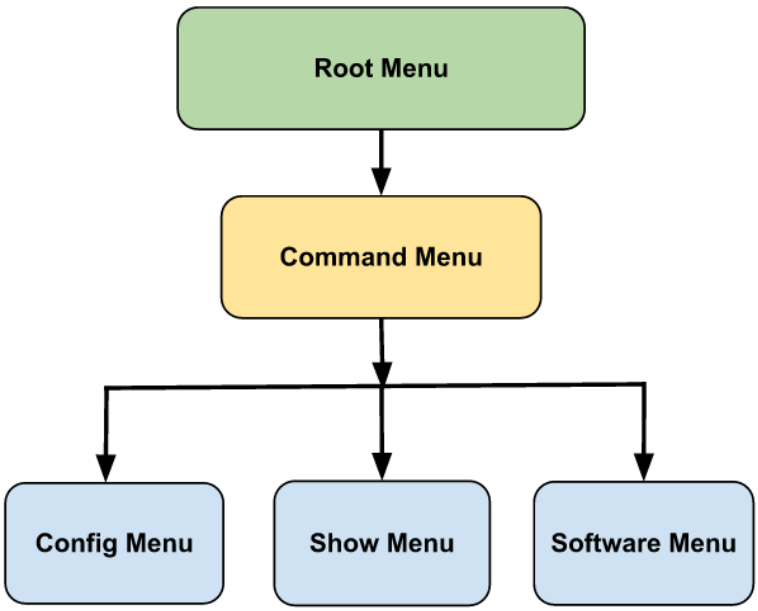

Figure 1. Graphical representation of the CLI menu structure

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Command Line Interface Menus

Below is a list of CLI menus and the available commands for each menu. To the right is a description of what each command does.

Top level menu – The commands below are available in the top level menu.

it@zclone>	
help	Show available commands
quit	Disconnect
logout	Disconnect
exit	Exit from current mode
history	Show a list of previously run commands
enable	Turn on privileged commands - System reserved
command	Zclone menu

Command level menu – The commands below are available in the Command level menu.

it@zclone(command)>	
help	Show available commands
quit	Disconnect
logout	Disconnect
exit	Exit from current mode
history	Show a list of previously run commands
config	configure unit - Goes to config level menu
show	show information - Goes to show level menu
software	software tasks - Goes to software level menu

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Config level menu – The commands below are available in the Config level menu which include configuring the database, network, user, repository, drive bays, tasks, buzzer, printer, temperature, image, and audit.

it@zclone(command-config)>	
help	Show available commands
quit	Disconnect
logout	Disconnect
exit	Exit from current mode
history	Show a list of previously run commands
db	configure database - Command used for saving, loading, listing, and removing databases.
net	configure network - Command used to configure the ZClone network options (DHCP or Static)
user	configure user - Command used to add or remove users.
repo	repo - configure a repository; use --help|-h for more info - Command used to configure repositories used for Drive to Image, or Image to Drive modes when cloning.
bay	bay - configure bay role; use --help|-h for more info - Command used to configure a specific bay to be a Master only, Target only, or both Master and Target.
task	task - configure a task; use --help|-h for more info - Command used to configure tasks without using the GUI (clone, wipe, hash). This command can also be used to start, show, reset, and abort tasks.
export	export - configure a filesystem export; use --help|-h for more info - Command used to export a filesystem using CIFS or iSCSI.
buzzer	buzzer [success|error] [on|off] - configure the light tower buzzer for an event - Command used to configure the optional light tower with buzzer.
printer	printer - configure a printer; use --help|-h for more info - Command used to configure a printer.

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temperature	temperature [disk|system] [<temperature>] - set the temperature threshold in degrees Celsius - Command used to set the temperature threshold.
image	image - image management - Use --help|-h for more info - Command used to rename or delete images in a repository.
audit	audit - audit log management - Use --help|-h for more info - Command used to rename or delete audit log files.

Show level menu – The commands below are available in the Show level menu which include showing the bay status, task configuration or status, repository list (or contents of one), or the configuration

it@zclone(command-show)>	
help	Show available commands
quit	Disconnect
logout	Disconnect
exit	Exit from current mode
history	Show a list of previously run commands
bay	bay - show bay status - Shows status of bays that have drives connected.
task	task [config <task id>| status <task id>| list] - show task configuration or status - Command used to show a list of tasks or the current status or configuration of a task.
repo	repos [list | <repo name>]; list repositories or the contents of one - Command used to show the list of repositories or the contents of a repository.
config	config; show configuration - Shows the current configuration

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Software level menu – The commands below are available in the Software level menu which include showing the software version currently installed, checking for software updates (both via web and USB), and updating the software (both via web or USB).

it@zclone(command-sw)>	
help	Show available commands
quit	Disconnect
logout	Disconnect
exit	Exit from current mode
history	Show a list of previously run commands
version	version - show software version - Shows the current software version on the ZClone.
check	check [www|usb] - check for software updates - Command used to check for software updates on the internet or USB (U6).
update	update [www|usb] - update software - Command used to update the software via internet or USB (U6).

If you have any questions regarding this application note or using the ZClone please contact our technical support team via telephone at 818-700-8488 (opt 3) or via email at support@logicube.com

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